Fossils Fuels

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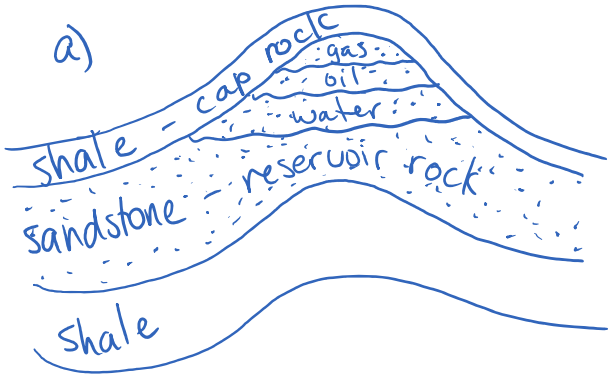
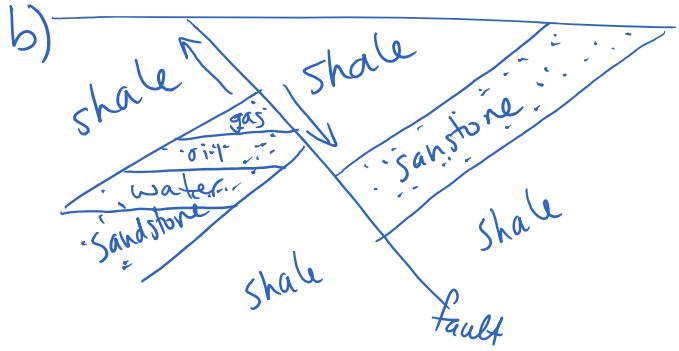
- energy source formed from ancient plants and animals

Petroleum (Oil)

Formation: marine micro-organisms are buried in ocean muds. Over time with pressure from over-lying layers, mud turns to shale. Over 1000s of years the oil is squeezed out of the impermeable shale into permeable sandstone or limestone.

Oil Traps:
- impermeable (no flow) cap rock (shale)
- porous (spaces) + permeable (flow) reservoir rock (sandstone or limestone)
- density determines order { gas / oil / water





Def^n's:

Crude oil - petroleum as it comes from the well, before being refined.

natural gas (gaseous hydrocarbons) and oil (liquid hydrocarbons) are formed the same way

methane - most common compound of natural gas

From crude oil we get: diesel fuel, lubricants, oil, gas, methane, but <u>not</u> methanol (this comes from

from crude oil - gas, methane, but not methanol (this comes from distillation of wood)

Formation Details:
rapid burial so no decay; 50-100°C; hydrocarbons break down during formation from complex large ones to smaller simpler ones.

Coal:

Formation:
- vegetation falls into swamps and with time and pressure coal is formed
- in order: peat (soft, low C) → lignite → subbituminous → bituminous → anthracite (hard, high C, produces high heat)

Economically Feasible to Mine?

- price of ore or resource must be high enough when sold
- concentration in rocks high
- easy to access, mine, and transport out
- lots in one spot
- not harm environment too much during extraction